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About tobacco and its deleterious effect

TOBACCO AND ITS DELETERIOUS EFFECTS

CHARLES E. SLOCUM, M.D.

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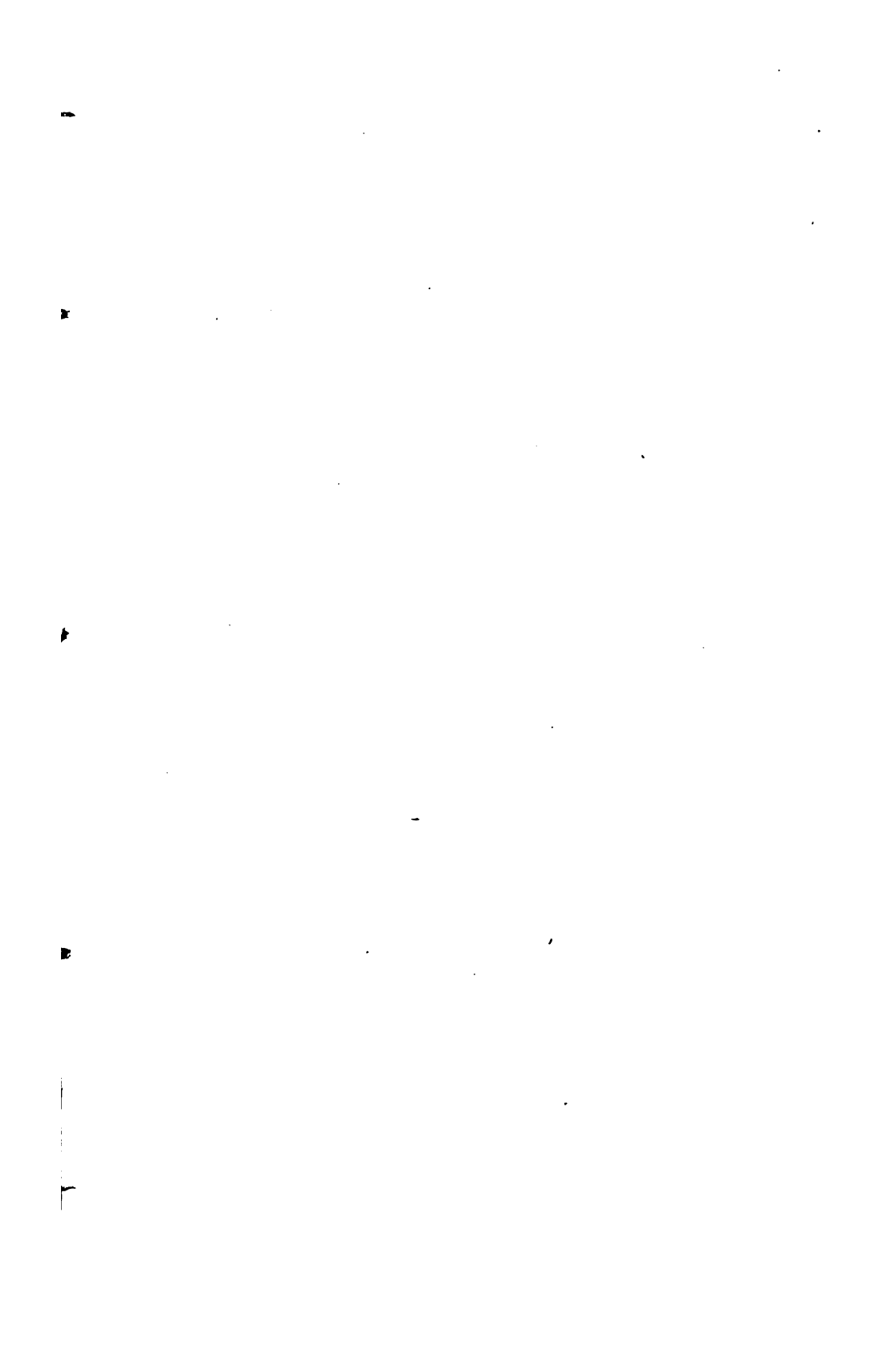


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A N D
ITS DELETERIOUS EFFECTS

A BOOK FOR EVERYBODY, BOTH
USERS AND NON-USERS

B Y

CHARLES ELIHU SLOCUM, M. D., PH. D., LL. D.
(COLUMBIA UNIVERSITY, AND UNIVERSITY OF PENNSYLVANIA)
MEMBER OF LOCAL, OHIO STATE, AND THE AMER-
ICAN MEDICAL ASSOCIATIONS

*There is neither tobacco nor alcoholic beverage in
the science of good health or the conditions
for true manhood*

THE SLOCUM PUBLISHING COMPANY

1909

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B

TO LIVE PROPERLY REQUIRES

a conscience and will cultured
to duly respect the health of
body and mind of self, and the
rights of others.



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TO THE
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OF AMERICA

This Book
Is Respectfully Dedicated
In Recognition of Their Freedom
From the Slavery of Narcotics
And the Exemplariness thereby Exhibited

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YAAH! YAA!

THE CRAVING FOR TOBACCO, OR ANY OTHER NARCOTIC

is but a perversion of physiologic, healthful appetite which, if gratified, soon leads to perversion and destruction of the victim's will, or the faculty of conscious or deliberate action to quit what appeals to every clean, well-informed mind as an unclean and most sinful habit against self, and against the human race.

P R E F A C E

The writer, a physician of over forty years practical experience, like all physicians of ample patronage, has seen very largely of the baneful effects of tobacco, as enumerated on succeeding pages. He is impelled by a sense of duty to put forth this book in hope to awaken the conscience and sense of propriety of users of tobacco, and to warn all non-users, including the young, against beginning its use.

It is hoped that the reader may herein be shown, forcefully, that the use of tobacco is one of the most unnatural, useless, and worst of habits, from the continued efforts and sickness necessary to form the habit, from its impairment of body and mind, its enslavement of the will, its disgusting encroachments on the pure air and other rights of those not addicted to it, and its further sinfulness in its entailment of degeneracy.

From the writer's observations among his patrons a large book could be written; but it appears to him preferable to bring together in small compass, for the general reader, succinct statements of many medical men, prominent in the different lines of professional activity in different countries, rather than let the evidence, herein given against the use of tobacco, rest on individual testimony.

When a young man, the writer, like so many others, 'learned to use tobacco' and continued its use for several years in what is called moderation by the average user. Before entering upon the study of medicine, however, the ill effects of the weed became so apparent to him that he threw into the falls of Niagara nearly all of the last cigar he lighted, the holder with it. Fortunately he had enough of moral courage and strength of will left to overcome the habit's craving for continuance; and he has since been entirely free from tobacco. During all of these forty-five years of freedom, he has not ceased to be thankful for his deliverance from one of the most unnatural, enslaving, and degenerating of habits.

The writer has thus had ample personal experience with tobacco and, having for many years had in mind the publication of evidence against its use, his observations of its ill effects have probably been closer on this account. He fully accords with the strong indictment against the habit shown on the succeeding pages of this book.

CHARLES ELIHU SLOCUM.

TOLEDO, OHIO, December, 1909.

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IT IS THE INHERENT RIGHT OF CHILDREN to be born healthful; and to be led and guided, and held, only along the paths of purity of body and mind, to the strengthening of the judgment, and the will, for their freedom of thought and action along the lines of the pure, and the right, in all things.

I

THE DISCOVERY OF TOBACCO AND OF ITS
HABITUAL USES.

The use of tobacco began with the Aboriginal people of the more central part of America in prehistoric time, so far as definitely known.*

The discovery of the use of tobacco by Europeans in November, A. D., 1492, led to their first discovery of the plant. Christo-

*The writer is aware that Mayer, in his *Geography of Plants*, states that the smoking of tobacco began with the Chinese people in ancient times; and that he observed on very old sculptures in China the representation of the same form of pipe that is yet in use there. In archeologic sense there is nothing definite about Mayer's statements, however, as many very old products of man according to some writers, do not antedate one century even.

The valuable scientific results of the Morris K. Jesup Exploring Expedition through northwestern America and northeastern Asia in recent years, make it appear very probable to many well informed people, that even the Chinese people are descendants of the American Aborigines, improperly called Indians. If such be the case, the migrating Chinese ancestors carried with them from America the great vice of tobacco using.

pher Columbus sent out a company for exploration from the caravels (small ships) of his first expedition in the discovery of America when anchored off the island the land of which was the first he discovered and on which he first landed and named San Salvador, now of the Bahama group. This exploring company reported to Columbus, among other things, that they saw people with fire brands lighting a dried herb, with the smoke of which they perfumed themselves.

This habit of smoking by these Aborigines was first formed by their unavoidable inhalation of the smoke of naturally matured and dried wild tobacco plants in the tropics, as with other vegetation, in the spread of forest fires; it being noticed that the smoke from this particular class of plants produced results that demanded its continuance, that is, fixed an uncontrollable habit upon them.

The habit of snuffing finely powered dry leaves of tobacco up the nostrils, was the result of gathering and preparing the naturally dried leaves for smoking use; the dust from crushing the leaves being satisfying to the desire for smoking. This habit of snuffing was first observed and described by Ramon Pane, a Franciscan, who accompanied Columbus on his second voyage to America, A. D. 1494-1496.

The chewing of tobacco naturally followed the habit of smoking, particularly when fire for smoking could not readily be obtained in wet seasons by the crude processes of fire-producing known to the Aboriginal and early peoples. This mode of using tobacco was first observed, and described, by Spaniards on the coast of South America in the year 1502.

The name tobacco was first observed used by the people on the island first called by the Spaniards Hispaniola, now known as Santo Domingo, and Haiti. The word tobacco, as here heard, was recorded by Orviedo in his *History of the West Indies*, A. D. 1535, as applying to the pipe formed of hollow twigs in the form of the letter Y, the upper parts to be inserted into the nostrils to draw into these cavities the smoke from dry tobacco through the larger part below. Benzoni, however, in his *Travels in America*, 1542-1556, published in 1565, found in Mexico the name 'tabacco' applied to the dry leaves of the plant.

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II

TOBACCO'S PLACE IN THE VEGETABLE KING-
DOM.

There is infinite variety in all of Nature's works, and particularly where there is life. This is seen in all classifications. Every family, in both Vegetable and Animal Kingdoms, shows certain very strong contrasts.

In no classification is this fact seen in greater extremes, for both good and evil to mankind, than in the *Solanaceae* or Potato Family.

The Potato, tuber of our tables, with general and specific names *Solanum tuberosum*, belongs to this *Solanaceae* Family. It is well styled the King of Vegetables, and is one of the great gifts of America to all other parts of the earth.

On the other hand the Tobacco plant, belonging to the same family with generic name *Nicotiana* and specific names given on later pages, contains the most active poison known, which poison when continually taken into the system in minute quantities enslaves the users, and makes the use of tobacco a vice

equalled in its baneful effects only by the use of alcoholic beverages.*

The number of species of Tobacco plants, genus *Nicotiana*,† growing in different climates and described by botanists, is about fifty; but few of them however, are cultivated for smoking, chewing or snuffing uses.

The tobacco most used in historic times by the Aborigines of the northern States east of the Missouri River, and sometimes cultivated by their women, is the hardy plant bearing the name *Nicotiana rustica* L. Some plants of this specie are yet occasionally seen growing wild in fields and waste

*In the Potato Family, the *Solanaceae*, also belong, in different genera, the Ground Cherries, Nightshades, Horse Nettle, Cherry Tomato, the common edible Tomato, Henbane or *Hyoscyamus*, the *Daturas* including the Jamestown Weed usually called Jimson Weed with specific name *Stramonium*; and the *Petunias*. There are in this family of plants twelve genera and somewhat over forty species growing, mostly in wild state, in the northern United States and Canada, most of them being noxious weeds, and several of them poisonous.

†Named from Jean Nicot French ambassador to Portugal, where he was presented with seeds of a tobacco plant which he caused to be planted in France about the year 1560. Later, he 'rendered service' in spreading knowledge of the herb, and botanists united in the use of his name, latinized, for the genus; and chemists used his name for the most poisonous ingredient.

places from Ontario to Minnesota, and southward to Florida. Its height varies from two to five feet. Leaves are broadly ovate, thin, entire, slender-petioled, two to eight inches long, one to six inches wide; petioles one-half inch to five-and-a-half inches long; flowers greenish-yellow, about one inch long, paniced. The leaves of this specie remain greenish when dry; it flowers from June to September. This specie was the first one cultivated in England and most other parts of the eastern continents; and it was often given the name of the country where cultivated, viz: English Tobacco, Syrian Tobacco, etc. It is at present not so much cultivated in the United States as formerly.

Other species recorded as cultivated or used by the American Aborigines, are: *Nicotiana quadrivalvis* along the Missouri River and westward; *N. multivalvis* along the Columbia River; and *N. nanis* among the Rocky Mountains.

The specie *N. longiflora* Cav., Long-flowered Tobacco, is native of South America, and has been cultivated thence northward to Ohio. It may sometimes be seen growing wild near the places where at present, or formerly, cultivated.

The specie generally cultivated in Virginia, formerly at least, is *Nicotiana tabacum*. It was this specie that the older phy-

sicians formerly exploited as a 'medicine' with very serious results. In good soil the plant attains a height of five to six feet; has lanceolate sessile leaves six to eighteen inches long; flowers rose-colored, the throat of the corolla inflated, the segments pointed.

The 'best' Havana cigars, it is supposed, are made of the leaves of *Nicotiana repanda* grown in Cuba. This species contains less of the more active parts of tobacco than many other species.

Nearly every one of the more prominent tobacco-growing regions, in the United States particularly, has its favorite species of the plant, from seed generally, imported from Cuba or other distant place; and the tobacco produced is often given the name of the person or place whence obtained or where grown, as the Havana Seed-leaf, the Gadsden, etc. The Perique is from Louisiana; the White Burley brand originated in Ohio.

The claim is made in later years that Australia, New Caledonia, Persia (*Nicotiana Persica*), and one or two other countries, have indigenous tobacco herbs or small trees, as members of this genus often attain larger size in hot climates. But seeds, or plants, for their propagation may have been carried there several centuries ago, even by pre-historic migrating people, and the claims of the earlier writers may be true that

tobacco plants were indigenous only in America.

Different soils and climates produce tobacco of different strengths and flavors; and different processes of culture, of drying the leaves, and of preparing them for each of the ways used, produce effects desirable to different tastes and desires. *

*The term tobacco has been applied to a number of other herbs, among their other common names, although these plants possess little if any resemblance to tobacco plants in proper sense. They belong to different families, viz:

1. Wild, or Indian Tobacco, is a lobelia, *Lobelia inflata* (L.) Richards. It has been used as an emetic, and is not so prostrating and poisonous as tobacco. It belongs to the Belleflower Family, the *Campanulaceae*.

2. Ladies Tobacco. Other common names are: White Plantain-leaf Everlasting, Mouse-ear Everlasting, also Pussy-toes. Its scientific name is *Antennaria plantaginifolia* (L.) Richards, of the *Compositae* or Thistle Family.

3. Mountain Tobacco, Arctic Leopard's bane, Arctic Arnica. The *Arnica alpina* (L.) Olin, of the Thistle Family (*Compositae*.)

4. Oregon Tobacco, Tobacco-root, Edible Valerian. The *Valeriana edulus* Nutt. Of the *Valerianaceae* or Valerian Family.

5. Tobacco-weed, Woolly Elephant's-foot. The *Elephantopus tomentosus* L. Of the Thistle Family.

III

THE COMPONENT PARTS OF TOBACCO.

The French chemist Louis Nicolas Vauquelin, born in the year 1763, died in 1829, was the first, in 1809, to make a more scientific analysis of a tobacco plant, and to determine most of its active parts. His work was followed and somewhat elaborated by chemist Hermbstädt, and in 1828 by Posselt and Reimann who ascertained the alkaline nature of the most active part named by different ones nicotin, nicotina, and nicotia, like the genus name of the plant in honor of Jean Nicot.

Nicotin is an alkaloid with chemic formula $C_{10}H_{14}N_2$, it possessing the largest part of nitrogen of all the many component parts of tobacco. It is colorless, or nearly colorless fluid when fresh, but soon assumes an amber color. It is entirely volatilizable, inflammable, very soluble in water, alcohol, ether, fixed oils and turpentine. Its solvents do not destroy or appreciably modify, its active poisonous nature, which is one of the most active poisons known. It forms crystallizable salts with many acids. In tobacco it is

supposed to exist in combination with malic acid as a malate.

The second most active chemic part of tobacco as noted by some analysts has been named by them Nicotiana, or Tobacco Camphor. It was separated by distillation of the leaves, fresh or dry, with water. It is somewhat fatty in consistency, and dries in minute acicular crystals, with tobacco odor. Much of the poisonous activity of this product, however, is probably due to nicotine.

The leaves are the strongest part of the plant and contain, in addition to the more active poisonous parts named in the foregoing paragraphs, albuminous substances and from sixteen to twenty-seven per centum of inorganic substances in form of different combinations not definitely differentiated into all of their natural forms. The great number, and strength, of the constituents of tobacco plants, account for the great exhausting effects of tobacco crops on soils. Poor soil cannot produce 'good' tobacco.

The smoke of burning tobacco, as drawn into mouths and throats of 'smokers' has been carefully gathered by different apparatuses made for the purpose, in addition to the different forms of pipes in more or less general use; and the smoke, with and without its accumulations along the tubes, has

been analyzed. These analyses have varied as much as, probably more than, those of the plant itself, principally from the degree of skill of the analyzers. A few do not note Nicotin in the smoke as they collected it, while others have discerned it distinctly in different combinations.

All capable observers agree in the complexity of the empyreumatic, resinous deposits in pipes and apparatuses with which the smoking is done; that it is exceedingly poisonous, and that more or less of every part of it is taken into the system in smoking as in other modes of use of tobacco.

Vohl and Eulenberg (see *The Dispensary of the United States of America* by Doctors Wood, Bache, Remington, and Sadtler, 15th edition) noted the following named gases in tobacco smoke, viz: carbon monoxid, CO; carbon dioxid, CO₂; and a hydrocarbon with composition of marsh gas, CH₄; hydrogen cyanid, HCy, or prussic acid; hydrogen sulfid, HS; different ammonias; and an oily-like substance as it condensed along the pipe or tubes, which has been analyzed as containing pyridin, C₅H₅N; picolin, C₆H₇N; lutidin, C₇H₉N; collidin, C₈H₁₁N; parvolin, C₉H₁₃N; coridin, C₁₀H₁₅N; rubidin, C₁₁H₁₇N; and viridin, C₁₂H₁₉N.

Pyridin was found to be most abundant in smoke from tobacco in pipe, and picolin,

lutidin, and collidin in smoke from cigar.—
Doctor B. W. Richardson in his book on
Diseases of Modern Life.

IV

THE POISONOUS ACTION OF TOBACCO.

Tobacco has no health-giving or health-aiding action on animal life. Its effects are wholly disease-producing, in double and most pernicious senses. Many capable and conscientious physicians of all countries for generations, and in far increasing number and ability, have been careful observers of its evil effects in the systems of their patients, and friends. A summary of its effects when first, and however, used, are here given together with the names of a few of the observers, and of the publications wherein recorded, viz:

The first taste of tobacco is acrid and, with very small quantity of the weed or of its smoke in the mouth, there is immediately absorbed into the blood enough of its active parts to produce violent poisoning effects, however active the glands about the mouth to throw out the poison. These symptoms

are: palpitation of the heart, faintness, dizziness, nausea and, with slight increase of quantity taken, vomiting, tremor, paralysis, and quick death, frequently in convulsions caused by poisoning of the spinal cord, the first stage of tobacco poisoning being spinal excitement.—*Treatise on Therapeutics, Materia Medica and Toxicology* by Dr. H. C. Wood.

Such deaths have been numerous reported. But few of them will be here referred to:

A boy aged thirteen years died from cigaret-smoking.—Reported by Dr. Broomhead in the *Medical Chronicle* for March, 1889.

The medical journal the *Lancet*, London, England, 2nd April, 1892, reports the deaths of one hundred boys under sixteen years of age from cigaret-smoking.

A girl nine years old was acutely poisoned to death in Louisville, Ky., Tobacco Stemmer where she was hired to work.—Dr. Chapman in the *Medical Standard*, Chicago, January, 1892.

The French poet M. Santeuil died of acute poisoning by Tobacco Snuff taken in a joking way.—Doctors Woodman and Tidy's book on *Forensic Medicine and Toxicology*, page 380. This authentic book reports a number of other deaths from tobacco used in

different ways, including for murder, and for suicide. Taylor's *Manual of Medical Jurisprudence* also contains similar reports, as do other similar books.

From the faintness and loss of voluntary motion 'from learning to use tobacco' some physicians early in the 19th century tried poultices, stupes, lotions, and ointments, made of it, on the skin; and decoctions, solutions, etc., by enema, for the relief of colic, for the relaxation of the muscles in strangulated hernia (rupture) and some other spasmodic affections. All such uses of tobacco showed symptoms of poisoning immediately. When applied externally where it could be removed before much symptom of poisoning occurred, or in case of enema was expelled from the body sufficiently, some of the patients recovered from its use; but the deaths from its poison were relatively so numerous that the plant was banished from the Officinal Medical List (Pharmacopeia) of every country. See *Treatise on Therapeutics* by Doctors Trousseau, Pidoux, Paul, and Lincoln, 1880, Volume II; Dr. Wood's *Treatise on Therapeutics, Materia Medica, and Toxicology*; Dr. Copeland's *Dictionary of Practical Medicine*, article on colic, etc., and Dr. Husemann in *Handbuch der Toxicologie*, Volume II, page 483.

Doctor Griscom's book on *The Use of*

Tobacco, quotes Dr. Tyrell of Ohio who was called to see a healthy young girl with sore on upper lip from burn she suffered three weeks before, whose mother, hoping to heal the sore, had placed on it a little of the sediment from the bottom of her tobacco-pipe—and the girl died in convulsions a few hours after the application.

The difficulty of separating the component parts of this empyreumatic oleo-resinous sediment from tobacco smoke into the exact chemic formula and combinations therein existing, makes it impossible at present to determine the exact effect of each part; and this is not necessary to know. In the combination as found in the smoke inhaled, the settlings in every pipe, mouth-end of cigars, also accompanying the dark coloring of the teeth in all ways of tobacco use, the numerous observations in man, and experiments on lower animals, show them all to be virulently poisonous with the same effects as nicotin, nicotiana, nicotia, or the entire tobacco leaf, in whatever way used.

Physicians prescribing the use of tobacco in any form, set up complex ailments if not specific ones, writes Doctor Dujardin-Beaumez in his book on *Diseases of the Stomach and Intestines*, Doctor Hurd's edition.

Alcoholic beverages do not counteract, or retard, the poisonous effect of tobacco; as

persons intoxicated with whiskey have died from 'taking a little too much of it' writes Doctor Griscom in his book on *The Use of Tobacco*. People have been poisoned to death by taking tobacco into the stomach in rum, and in whisky.—*Forensic Medicine and Toxicology* by Doctors Woodman and Tidy, page 381.

The effects of tobacco are the same on the system of the lower animals as in mankind;* but it has been presumed that some of the herbivora can take more of it without fatal effect than the carnivora. This is probably due to the tolerance begotten from occasionally browsing the tobacco plant.

*This statement may call to the mind of some reader the 'tobacco worm and beetle', the enemies of the plants, as possible exceptions to the rule. A careful study of the biology, and biochemistry, of growing plants will show innocuous stages in poisonous plants, as well as stages of difficult digestion in some edible fruits and vegetables in their unripe stages. A detail scientific study of the changes occurring in seeds in their germinating, growing, and ripening stages, gives glimpses of the marvelous processes of nature. Pharmaceutical chemistry shows the proper time for gathering any one or more parts of a plant for the active ingredient or part wanted for medicine. The professional tobacco-grower, and the 'manufacturer' have grown 'wise' in their efforts to produce 'desired results' in their products. It is, however, at times difficult to preserve any vegetable or animal matter from the destructive influences of saprophytic fauna and flora.

Tobacco is injurious to digestion, writes Dr. Wilson Fox in his book on *Diseases of the Stomach*, 3rd edition.

The influence of tobacco, however used, extends to both mucous membrane and muscular layers of the stomach, and produces great irritation, redness and injection of vessels. When the tobacco is stopped these changes somewhat subside, but not entirely. The mucous membrane secretes irregularly and, as a general rule, does not produce the due amount of gastric fluid; hence digestion is impeded. Afterwards an acrid fluid is left in the stomach which irritates and give rise to heartburn, eructations, frequent nausea with an almost constant sensation of debility of the stomach. Carried to somewhat further excess it produces a palsied condition of the muscular fibers, leading to a great increase of debility in the digestive organs and probably death. From analogy derived from the inferior animals, which analogy must be very perfect, the condition of the vital organs when first using tobacco are as follows: The brain is pale and empty of blood; the stomach is reddened in round spots, so raised and pile-like that they resemble patches of dark Utrecht velvet; the blood is preternaturally fluid; the lungs are pale as the lungs of a calf when we see them suspended in the shambles; while the heart

overburdened with blood and have little power left for its forcing action, is scarcely contracting, but is feebly trembling as if, like a conscious thing, it knew equally its responsibility and its own weakness. It is not a beating, it is a fluttering heart.— See Dr. Richardson's book on *Induced Diseases of Modern Life*.

V

THE PATHOLOGIC (DISEASING) EFFECTS OF
TOBACCO.

The action of tobacco whenever and however used is a disease affect and effect, a general call to, and rallying of, all the powers of the system to aid in preventing serious harm, and in eliminating the poison. This process of protection is constantly at work in the system of every user of the poison, however long continued or deep in the vice of the habit; and no one can foretell when the system may succumb to the direful effects of the habit.

However used, the active parts of tobacco are quickly absorbed into the blood, and

however small the quantity absorbed the affects and effects are baneful. Every function of the system is quickly affected through the blood and the nerves.

One of the most important parts of the brain, the medulla oblongata connecting directly with the spinal cord, receives the brunt of tobacco poison and transmits its serious effects throughout the entire system. Hereby we understand its effects on the nervous system in general and the great joint-nerve of the lungs and stomach (pneumogastric nerve) in particular.—See Dr. Huchard's *Lectures*, first printed in *Le Bulletin Médicale* 22-26 May, 1889.

But this is not all. Much is due to its action on the muscular system in general, and particularly upon the vascular walls. Thus we see why it is that tobacco is such a strong poison to the heart throughout its vascular, nervous and muscular systems, and to every other organ, and every part of the general system also, through the same sources.

The spasmodic (vasoconstrictive) action of tobacco has been thoroughly demonstrated. It has been demonstrated that the effects of tobacco resemble absolutely those produced by electrifying (galvanization) of the great sympathetic nerve. It produces a rigid spasm which, secondarily, constricts the blood vessels and deprives the muscles

of proper nourishment, thus producing muscular ischaemia, which explains in part the tremor, muscular weakness, and paralytic symptoms (paresis) observed in the testings of tobacco on the lower animals. Such vasoconstrictive action produces disturbances in every part of every organ in the body, and disorders proper function throughout. (In this connection see Dr. M. Allen Starr's address on Vasomotor Trophic Neuroses in *The Journal of the American Medical Association* 17 July, 1909).

In the use of tobacco the nerve centers exhibit signs of improper blood supply (ischaemia), producing brain-spinal (cerebrospinal) irritation, headache, nausea, morning fatigue, impairment of memory, mind (psychical) irritation, inaptitude for work, disability of speech and writing (aphasia), symptoms of paralysis of one side (hemiplegia) alternating from right to left, etc.

The constricted, oppressed breathing (dyspnoea) is due to the action of the tobacco on the medulla oblongata and through its systems of nerves to the respiratory muscles, and including the muscular layers of the pulmonary circulatory system.

The untoward effect of tobacco on the kidneys is traced to this hyperarterial tension, combined with the general irritation. Tobacco is thus a factor in Glycosuria (dia-

betes mellitus). See Dr. Love's article in *The Jour. of the Am. Med. Assn.* Vol. 36, page 540.

It is upon the heart itself, however, that some of the most deplorable effects of this vascular lock-jaw (tetanization) are produced. Herein arises the source of the paroxysmal pain about the heart (angina pectoris) with suffocation, syncope and often death, due to the spasm and changes in the coronary arteries and consequent poor nourishment (ischaemia) of the great muscles of the heart. The hard, small, quick, and often irregular tobacco pulse is caused by this vasoconstrictive action, and weakened heart.

The heart, arteries, and gastro-intestinal system suffer great rise of pressure from the undue effect of tobacco on the vasomotor center of the medulla oblongata, thus weakening the heart from affection of the vagus nerve and inhibitory ganglia of the heart.—See the medical journal *Practitioner*, London, England, July, 1905.

Tobacco affects the heart by paralyzing the minute vessels which form the batteries, so to speak, of the pneumogastric nerve which furnishes motive power for lungs, heart, and digestive apparatus. Proof of this is seen in the congestive cough, and dyspeptic symptoms often in connection with

tobacco heart. Enlargement of the heart is apt to follow.—Dr. Maine in the *Medical News* 26 July, 1902. Also see article by Dr. L. P. Clark in *The Medical Record* New York City, 29 June, 1907.

At first these effects are functional; and with the habitual tobacco user there is constant functional disturbance. It should be evident, therefore, to everyone that the continued use of tobacco begets an increasing permanency of functional effect that cannot but beget organic disease. Every organ of the body is subject to a variety of forms of organic disease from this cause.

The effects of tobacco are cumulative, writes Dr. Mitchell in the *Lancet-Clinic* 13 June, 1908. The effects of tobacco are concentrated on either the respiratory, the cardiac, or the alimentary system.—Dr White in the *Birmingham Medical Review*, 1904.

Continued use of tobacco, in any form, begets permanent narrowing (contractures) of the blood vessels, and a sort of peripheral circulatory barrier accumulates. Arterial tension is increased; the heart suffers from successive dilatations, which in turn become permanent; and there is produced a general hardening and degeneration of the coats of the arteries (arterosclerosis) making sudden

death from heart failure, or apoplexy and paralysis very probable.

With the smoker, particularly, the monoxid of carbon, CO, in the smoke produces drowsiness, unsteady movements of the heart, tremulous and even convulsive movements of muscles, and often vomiting, writes Dr. Richardson in his book on *Diseases of Modern Life*. With but slight increase of this virulent poison, death is caused.

The monoxid of carbon in tobacco smoke affects the hemoglobin of the blood, converting the oxyhemoglobin into carbonic oxid (CO) hemoglobin, a stable compound not reduced in the circulation; hence producing difficulty of breathing, and quick death if the poison be not discontinued.—Dr. Dudley in the *Medical News*, 16 September, 1888.

Every user of tobacco, in every form used, is constantly receiving within his system numerous warnings by nature to stop its use, viz: irritation of the lips, mouth, throat, airtubes and lungs, in addition to the sickening symptoms mentioned in the foregoing paragraphs.

VI

FURTHER MENTION OF DISEASES CAUSED
BY TOBACCO.

From the preceding description of the effects of tobacco throughout the entire system, it can readily be understood how it is that these effects can, and do, originate any one, or all, of the organic diseases, and incite to increased activity all of those diseases to which the user was inclined at the time of his beginning the use of the poison. Here, again, but few of the great number of illustrative cases, with references, will be adduced, viz:

From an examination of more than one thousand men, women and children, workers in tobacco manufactories, every one was found poisoned more or less, and suffering generally, and particularly with one or more of the following named diseases: of the eyes, heart, exaggeration of reflexes, headache, fainting fits, etc.—Madame Walitzkaja in the *Medical Press*, 1887.

Tobacco poisoning by the air of tobacco works, even to death, has been reported by different physicians, and from different

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works, including Dr. Chapman in the *St. Joseph, Mo., Medical Herald*, November, 1891; and in the *Medical Standard*, Chicago, January, 1892.

With three thousand tobacco workers examined for eye effects by Dr. F. Dowling of Cincinnati, he found a large percentage affected by blindness, in addition to lesser irritations, from disease of the optic nerve, retina, spine or brain (amaurosis, and amblyopia).—*The Medical and Surgical Reporter*, Philadelphia, 22 October, 1892.

Tobacco amblyopia is the most common of all toxic amblyopias.—Dr. Dowling in *The Lancet-Clinic*, 13 June, 1908. Blindness (amblyopia) from use of tobacco is reported by Dr. C. A. Wood of Chicago, in *Annals of Ophthalmology and Otology*, Kansas City, Mo., July, 1892.

Blindness (amaurosis) was found in horses that had eaten the weed *Nicotiana suaveolens*, the 'native' Australian tobacco. Absolute blindness was developed in the horses that had eaten of the weed somewhat from six months to two years. Wasting (atrophy) of the spinal cord and its nerves near the medulla oblongata was found in these horses on post mortem examination by Dr. Heusmann of Göttingen, Prussia; reported in the medical book *Schmidt's Jarbücher*, Leipzig, Saxony, 15 February, 1895.

Tobacco amblyopia (blindness) at first a functional disorder, perhaps a circulatory or nutritional disturbance, leads to organic change, producing atrophy (wasting and decline) of the papillo-macular fibers, writes Dr. Ramsey of Scotland in the *Glasgow Medical Journal*, December, 1894.

Some observers have reported that in tobacco amblyopia (blindness) vision did not decline below 20-200ths; but Dr. Polkinhorn reported in the *Ophthalmic Record*, Chicago, July, 1900, that one-half of his cases were beyond this strong degree of blindness. One of his cases was a wife who did not smoke, but was closely confined in caring for a paralytic husband who was a regular smoker of tobacco.

Tobacco causes retro-bulbar neuritis (inflammation of the optic nerve, and blindness.—Dr. A. T. Haight in the *Chicago Clinic* March, 1899.

Tobacco amblyopia is the result of axial neuritis (central inflammation) of the optic nerves.—Dr. Bruns in the *New Orleans Medical and Surgical Journal*, 12 August, 1888. See also reports on tobacco blindness by Dr. Baker in *Cleveland Medical Gazette*, June, 1888; by Dr. Doyne in the *Royal London Hospital Reports* January, 1888; and several cases of tobacco blindness (tobacco amaurosis) by Dr. Ayres in *The Lancet-Clinic* 21 January, 1888.

Tobacco causes atrophy (wasting in size and integrity) of the optic nerves and subsequent amaurosis and amblyopia.—Dr. J. Solberg Wells in his large book on *Diseases of the Eye*, 2nd American from the 3rd English edition. Tobacco produces amblyopia by causing degeneration and destruction of the ganglion-cells of the macula lutea, the most important center of sight.—Dr. Deschweinitz in the *American Journal of the Medical Sciences* September, 1897.

All smokers of tobacco have more or less serious affections of the eyes.—Dr. B. H. Brodnax in the journal *L'Encephale* Paris, October, 1892. Use of tobacco in any way has injurious effect on eyes, and other organs.

Tobacco causes deafness by irritating, producing hyperaemia and thickening of the pharynx and eustachian tubes, writes Dr. Wingrave of England in the *Medical Press and Circular* 11 February, 1903. Tobacco has direct action on the auditory nerve producing trophoneurosis and deafness by its action on the circulation through the sympathetic nerve. Like other toxic neurites it is progressive, and affects both ears simultaneously.—Dr. Delie in the journal *Hebdomadaire de Laryngologie*, 1905.

In his book on *Diseases of the Throat and Nose* Dr. Bosworth of New York City describes bad effects of tobacco on these parts.

Doctor Coomes, of Louisville, Ky., in a paper read before the Ninth International Medical Congress describes serious results of tobacco on the respiratory tubes; see *Transactions* of this Congress, Volume IV, pages 101, 102.

The sense of smell is blunted, oftèn destroyed by the effects of tobacco in the nasal and post-nasal fossae, causing atrophic rhinitis and pharyngitis.—Dr. Parker in the *Medical News* Philadelphia, 20 September, 1890.

Epithelial changes are produced on the lips, in the mouth, and respiratory passages by tobacco, causing perversion of taste and other senses.—Dr. Barbaran in *Revue Médicale de l'Est* Nancy, France, 15 September, 1890. See, also, the *British Medical Journal*, London, 25 October, 1890. Tobacco causes sore throat, cancer of the mouth, throat and lips.—Dr. Merlin of Algeria in the *Gazette Médicale de l'Algerie* 15 August, 1892.

Doctor Favarger of Vienna, Austria, in the *Wiener Medizinische Wochenschrift*, 1887, also Dr. Gigliarella of Italy in the Italian medical journal *Rivista Clinica*, 1887, report cases of chronic nicotinism (tobaccoism) causing disease of the heart with palpitation, irregularity, dyspnoea ('heart asthma'), angina pectoris (spasms of pain with suffocation), chronic myocarditis (fatty de-

generation), Gastralgia (great pain in stomach), great disorder of bowel from inflammation of some parts and paralysis of other parts, etc.

Doctor Anstie reports in his book on *Neuralgia and Similar Diseases*, angina pectoris caused by tobacco.

The use of tobacco not only lessens the efficiency of respiratory movements and the internal distribution of oxygen, but exerts a special deleterious influence on the heart, often disturbing the uniformity of its rhythm and impairing its force; and not unfrequently causing sudden death by cardiac paralysis.—Dr. Brunton in his *Lectures on the Action of Medicine* pages 321-323.

Doctor Robert of Algeria, Africa, writes in the *Gazette Médicale de l'Algerie* 30 May, 1889, that if a tobacco user's system is so fortunate as to apparently tolerate its effects for some years, the heart becomes enfeebled, hardening and degeneration of the arteries (arteriosclerosis) develops, making sudden death imminent. Dr. Dumas of Algeria, in the same *Gazette* 30 November, 1887, reports fatal case of tobacco angina pectoris. Such cases are not curable, says Dr. Huchard in his Lectures in *Le Bulletin Médicale*.

Experiments by the prevailing methods demonstrate that the gastric fluids are diminished, and digestion impaired by the use

of tobacco.—Dr. Ydan-Pouchkine in the medical journal *Wratch* St. Petersburg, Russia, Number 48, 1890.

Tobacco is responsible for a variety of functional derangements which terminate in organic diseases. Diseases of the kidneys are caused thereby, writes Dr. A. G. Auld of Glasgow, Scotland, in the London *Lancet* 20 April, 1889. Sugar in the urine (Diabetes Mellitus, Glycosuria, Glucosuria) is not only aggravated by tobacco, but it may be caused by tobacco.—Dr. H. Stern in the *Medical Record* 27 April, 1901.

Doctor Kitchen writes in the *Medical Record* 27 April, 1889, that it is easy to see the dire effects of tobacco in the stunted growths of adolescents in size, and other forms of development; from disorders of functions, including the heart, intellectual sluggishness, loss of memory, color-blindness, loss of or depraved appetite, neurosis of motion, marked blunting of various functions of sensation, hereditary degeneracy, etc. Twenty per cent. more money is expended for tobacco in America than for bread; and this comparison represents but a small part of the real cost of the use of tobacco.

VII

TOBACCO IMPAIRS THE FUNCTIONS OF BOTH
BODY AND MIND.

The French writer, André Thevet, described the serious effect of tobacco on the sexual system in the year 1555.—The journal *American Medicine* 23 April, 1904. See also regarding the same affection Dr. Prodel's article in the *Gazette Médicale de l'Algerie* 30 June, 1890; Dr. Decroix in the medical journal *Times and Register* 15 November, 1890, and the *Weekly Medical Review* St. Louis, 28 March, 1891; Dr. Lewin in the *Journal of Comparative Neurology* September, 1893; Dr. Le Juge de Sagrais of Luchon, France, in the *Archives Générales de Médecine* 1902; and Dr. Petit in the medical journal *Il Policlinico* Rome, Italy, 1904.

Mental disease (Nicotinosis Mentalis) ascribed to the increased consumption of tobacco, is described by Dr. Kjellberg of Upsala, Sweden, in the *Wiener Medizinische Presse*, Vienna, Austria, 17 August, 1890, as characterized by distressing emotions of indisposition and weakness, hallucinations, and delusions with suicidal intent.

Nicotinic Psychosis (tobacco mental disease) among marines, and workmen in factories at Upsala who used tobacco, is described by the same writer in the *Weekly Medical Review* of St. Louis, Mo., 29 August, 1891, as manifesting itself by feebleness, inactivity, and despondent ideas. Hallucinations follow at an early period, accompanied by depressive ideas and, later, by exalted and maniacal ideas and actions. Dr. Lewin mentions similar effects of tobacco in the *Journal of Comparative Neurology*.

Tobacco intoxication, from external application of tobacco infusion for the destruction of lice, is reported by Dr. Auché in the *Journal de Médecine de Bordeaux*, France, 22 March, 1891.

Rabbits slowly poisoned by cabbage leaves wet with solution of tobacco, showed in post-mortem examination progressive hardening (sclerosis) of liver with proliferation of bile ducts. Kidney and heart-muscle changes were also found.—Dr. Adler in *American Medicine* 10 May, 1902.

Tobacco, as poisonous as it is, is not a bacteriacide, or even an insecticide in the true sense. Used against lice it has poisoned the host nearly to death while leaving the parasite unhurt. As a fumigator against germs, even the smoke of smoldering wood has been found more efficient while far less

objectionable.—The medical journal *Lancet*, London 4 May, 1907.

Bacilli Tuberculosis, from the mouth of the cigar-maker, have been found alive and ready for infection in the mouth-end of cigars for the shaping of which spittle had been used.

The Cigarmakers' International Union, which has had an average membership of less than 40,000 for ten years, reported in the year 1909 that during the last twenty-seven years it had expended close upon \$4,500,000.00 for the relief of the sick and disabled, and for funeral charges, of members of the Union.

At the Tuberculosis Congress in 1908, the statement was made that this disease had cost America the vast sum of \$1,100,000,000.00 every year. Many of these sufferers were users of tobacco.

The use of tobacco conduces to the cause of tuberculosis and, thereby as a matter of course, detracts from the cure and treatment of this disease. See the medical journal *The Hospital* 28 November, 1908, on the report of the Henry Phipps Institute.

Tobacco has no value as a medicine. It is injurious in convalescence from disease, writes Dr. Coughlin in *The Jour. of the Am. Med. Assn.* 23 August, 1902.

Tobacco is injurious to the sense of taste,

to the throat, voice, nervous system, digestion, the bones, muscles, respiratory system, heart, senses of sight and hearing; to mental and physical development, and to one's ability, generally, writes Dr. Blaisdell in his book on *Life and Health*, 1902.

Tobacco users do not stand surgical operations well; they are liable to collapse, writes Dr. Bangs in the *Medical Record*, New York City, 14 March, 1908.

A comparative study of the users and non-users of tobacco among the students at Yale University in respect to their physical development, showed the following results of one class in four years, viz:

Average increase in lung capacity in users, .15 litre; in non-users, .25 litre, or an increase of 66 per cent. greater for non-users. Inflated chest measurements, in users, .304 metre; non-users, .364 metre, an increase of 19 per cent. greater in non-users. Height in users, .0169 metre; non-users, .0202 metre, an increase of 20 per cent. greater for non-users. Weight, in users, .4 kilogramme (1 pound); non-users, .5 kilogramme (1 1-4 pounds), an increase of 25 per cent. greater for non-users. Of the entire class 70 per cent. did not use tobacco. The prominent athletes, with one exception, did not use tobacco, and all candidates for the boat crew abstained from its use.—Dr. Jay W. Seaver

physician and instructor in athletics at Yale University, in the *Sanitarian* New York, September, 1891.

Doctor Seaver also reported to the *National Popular Review*, San Diego, California, January, 1893, the comparative condition of 77 non-users of tobacco, 22 irregular users, and 70 habitual users at Yale University, viz:

In weight the non-users increased 10.4 per cent. more than the regular users, and 6.6 per cent. more than the occasional users. In height, the non-users increased 24 per cent. more than the regular users, and 14 per cent. more than the occasional users. In chest-girth the non-user had an advantage over the regular user of 26.7 per cent. and over the occasional user of 22 per cent. In lung capacity the growth was in favor of the non-user 77.5 per cent. when compared with the regular user, and 49.5 per cent. compared with the irregular user.

Similar pernicious effects of tobacco have been noted by Dr. Hitchcock among the students at Amherst College (*American Medicine* 13 September, 1902, by Dr. Lewin in the *Journal of Comparative Neurology*, and by many other physicians and educators, including those of Defiance (Ohio) College, whose tobacco-using students also could not make good grades in their studies.

Aside from alcoholic beverages, tobacco is the most commonly used poisonous substance. One of its active parts, Nicotin, has long been known as one of the most deadly poisons. Adler and Hensel have, by injecting solutions of Nicotin, seen arterial degeneration produced in rabbits.

—Editorial in *The Jour. of the Am. Med. Assn.* 13 October, 1906, based on an article in the *Journal of Medical Research* of 1906.

Doctor Kellogg very appropriately and forcefully contends that the use of tobacco is the fundamental vice of the habit of drinking alcoholic beverages; the tobacco exciting a craving for strong drink. From the year 1879 he has refused to undertake the care of any case of alcoholic inebriety without full understanding, and consent of the patient, for the quitting of tobacco also.

—*Modern Medicine* June, 1899.

All persons who are thinking that they get tobacco that satisfies the habit's craving, and which contains no nicotin, are referred to the experiences of the Austrian Government which, having monopoly of the tobacco trade, began to sell its subjects tobacco with the nicotin removed. The people addicted to full tobacco at once recognized the loss of the desired active part, and refused to purchase the weakened weed.—Vienna Letter in *The Jour. of the Am. Med. Assn.* 16 March, 1907.

VIII

TOBACCO BEGETS INDOLENCE, AND INDIF-
FERENCE TO PROPRIETY, AND TO
WELL-BEING.

Observers of the evils of tobacco-using in general are not agreed upon the form of use that is the most injurious, or the most disgusting. Nor are tobacco-users agreed among themselves on these questions. Every user having a favorite form of use, contends that it is the least harmful of all other forms. The tendency with users of the weed, however, is to become so deeply sunken in the vice as to desire tobacco in different forms. It is a truism that the person who uses the least in quantity suffers the least from the poison regardless of the form or way in which it is used.

Cigarets are thought by many users of tobacco to be more injurious than other ways of smoking because of the habit of deeper (?) inhalation of the smoke of cigarettes which, some think, possesses relatively more of the noxious ingredients of tobacco. But many smokers of cigars, and pipes, also inhale the smoke, and get even more of the

poison into the system, relatively, than do cigaret smokers. Possibly some 'manufacturers' add other noxious ingredients to the tobacco as has been charged against them. Analysis of some cigaret papers have shown them clear of such treatment; but there are many kinds of papers, and of tobaccos, not reported upon.

Cigarets may be used in greater number, and by younger boys, than cigars or pipes and, other things being equal, the younger the age the greater the evil effect from the same quantity of tobacco of the same strength.

In an article on poisoning of the blood by the use of tobacco (Tobacco Toxemia) by Dr. R. V. Dolby of Vancouver, British Columbia, printed in the journal *Northwest Medicine*, Seattle, Washington, October, 1909, he writes in part, that: Chewing is without doubt the most pernicious form in which to employ tobacco. The pipe and cigar, far from being the safest medium for the indulgence of tobacco, are the most dangerous. Tobacco amblyopia, cardiac syncope, angina, loss of memory, tardy and delayed cerebation, are found chiefly in heavy cigar and pipe smokers. Even cancer of the lips or tongue seems to be the special heritage of the pipe or cigar smoker. The cigaret is responsible for the cardiac

irritability, largely in neurotic people, also responsible for irritable laryngitis and pharyngitis. . . .

The tobacco habit not only enslaves the will, but it often perverts the mind and actions of its victim. When called to account for their continued adherence to the undesirable habit, men either change the subject of conversation, or begin to talk about 'use and abuse of the weed' as though there could be the least use of tobacco without abuse of the system, which is impossible. It is also impossible for the user of tobacco not to use it to 'excess.'

It has been estimated that there is more money expended in the United States each year for tobacco and alcoholic beverages than for bread and education combined. The taxes of the General Government (Internal Revenue Receipts) for 1908 are reported as being \$49,862,754.00 on tobacco, and \$140,158,807.00 on spirits. To these very large amounts should be added hundreds of millions received by the tobacco and grain growers and the manufacturers. The pecuniary cost of these habits, however, is small compared with their vicious, demoralizing, weakening and degenerating effects now, and their entailing effects of misery upon future generations. No one can afford such habits in any true sense.

Americans are not nervous in imagination only, as has recently been promulgated in a book which has been noticed broad-cast in newspapers. Talk with the tobacco-users in their moods of honesty with themselves and with you, and they will tell you the fault is with tobacco, and with the alcohol if they have this habit also. Physicians, non-users of tobacco, could tell the same regarding the cause of men's nervousness, and of their necessarily shortened lives by these habits; of the cause of the 'break-downs'; the heat-stroke deaths; 'brain-storm' murders, and suicides; also of the cause of deaths from 'accidents' attributed by reporters to 'defects in the steering apparatus of the automobile, the horse becoming unmanageable' and many other subterfuges.

Most of the fires, as well as a large percentage of the death-rate arise from the direct and cumulative results of tobacco, alcohol, or both combined.

Associated Press Dispatches from Johnstown, Pa., 11 September, 1909, mention death, and serious injuries, from explosion of a keg of powder by a spark from a cigaret being smoked over the open keg; and near Key West, Florida, was reported 28 August, 1909, the death of twelve men and serious injury of five others by the explosion of seven hundred pounds of dynamite from

a lighted cigaret thrown into a box of fuses. Such is the thoughtless, indolent, often careless, indifference to propriety, even to well-being, begotten by tobacco using!

The ever-ready matches are also scattered so that children get them—and numerous children have been thus burned to death, others maimed for life, and much valuable property destroyed, by the fires they have caused. Could all the facts be gathered from every community regarding deaths, maimings and misery from these allied causes, the list would be appalling.

Newspapers seldom report the true cause of death in any community, from regard for the feelings of surviving friends. Such is also the case with physicians' reports and certificates throughout most of the long list. The true cause of death is evaded when possible, and the report is made to read: accidental, from violence, despondency from poor health, chronic inflammation and change in one or another of the vital organs, etc., etc., without naming the exciting cause.

These enormities have been so frequent in every city and township that the people soon forget those that have occurred in their locality, and read with little concern about the similar catastrophes coming to their notice from other places.

Tobacco has never been charged with its

proper share in the causation of the sad property losses, diseases, sufferings, and deaths mentioned on the preceding pages.

Modern science is just beginning to show the iniquities of the use of alcoholic beverages. It is, however, as yet dealing only with bodily or physical phases of the great evil. Tobacco-using should be combatted as a close companion evil, not only in a physical sense but as a mental, psychological, and moral evil.

Every observing person can point to numerous evil effects of tobacco and alcohol in every community, both of recent and of hereditary origin. Many physicians for many years have been sounding notes of warning, and they are now taking more advanced and practical measures in all civilized countries for the suppression of these evil habits, and for lessening the increase of physically and mentally defective children. Even the English Press has therefrom had occasional spasms of 'regretting that the British race is deteriorating.'—See abstracts in *The Literary Digest* of 24 July, 1909.

IX

TOBACCO CAUSES ORGANIC DEGENERATIONS,
AND THE TRANSMISSION OF DEGEN-
ERACY.

To the medical profession the credit is due for the degree of hygiene and sanitation that prevails, as well as for the pure food and drug law, and for other improved modes of living. But the medical profession should have more power from the governments. The American Medical Association has been laboring for a generation, and longer, for a National Department of Public Health, with a free-from-political-bias physician as a Cabinet Officer at its head. Progress has been made toward this desirable result. There has been, and yet is, a sorry need for uniform human-hygiene and other far-reaching health laws, and for their uniform enforcement throughout the Nation. The Congress has expended millions of dollars for the improvement of the 'blood' and the health of the farmers' live-stock (which was proper) but scarcely a dollar has it expended for the improvement of the blood or health

of the people, other than for quarantine and the marine hospital service, ostensibly in the interest of commerce.

Not until the United States has a Department of Public Health with the dignity of a Governmental Department, and there is a uniform system of health laws throughout the States, will there be a fully equipped rallying center for the Christian Good Sense of the Nation in the support of all wise measures best calculated to ameliorate the evils and defects that now exist, and to introduce and carry forward measures for the proper endowment, physically and mentally, of future generations.

Everyone can, and should, help in this most worthy effort; in talking about it and begetting favorable interest in the community that will help to secure nominations, and elections, only of men of correct habits who will, in State Legislature, and in the Congress, subserve the best interest of the people in these most important reforms, as well as in other ways.

Any habit, or act, of a parent that produces much of even functional disturbance has bad effect upon the children begotten by such parent. The deep defects produced by tobacco on the generative system, mentioned on preceding pages, perniciously affect the germ plasm, and germ cells, and

cannot but show blight, more or less, in the children that may be born of a parent addicted to this vice.

Tobacco, in some ways even more than the alcoholic-beverage habit, touches forcefully the nerve centers; the medulla oblongata, the spinal center, the generative center, and the great sympathetic nerve centers, leaving therein its trail of debility, defects, and degeneration, all of which affections are in line of transmission to posterity.

Many children not showing pronounced effects of degeneration in early life, will exhibit great defects in later years, from want of physical or mental strength to withstand the duties of life. A careful observer can discern many such cases, in many variations of defects, in every community. Some of the defects or perversions may have alcoholism as well as nicotinism as a contributing factor; and some may be traced to result from one or more grandparents in different generations; but most of them are due to cumulative evils.

As the generations have come and gone, the number of perverted or otherwise degenerate children have increased; and with the impetus the cause has obtained, they will continue to increase for some length of time, even after the tobacco and alcohol

habits are suppressed, and a thorough system of 'breeding up' be inaugurated.

Eugenics is a new science in human race improvement that is as yet not fully developed, even in theory. Too many of its advocates are addicted to tobaccoism at least, and yet take too narrow a view of the requirements of the science. However, some investigators along this line are doing good work so far as they can with their present serious handicaps. In this connection see the July, 1909, number of *The Annals of the American Academy of Political and Social Science* Number 1 of Volume XXXIV, all of the 171 pages of which are given to the discussion of Race Improvement in the United States. Also see late discussions, and enactment, of the Indiana Legislature.

The prevention of improper marriages or, more properly and far reaching, the prevention by surgical operations of propagation of children by the diseased, by criminals, by those mentally unfit, and all manner of degenerates, of both sexes, may become a necessity if the vices of narcotism and its great brood of evils are not suppressed.

The advances made by mankind in civilization have been tortuous and slow, mainly from bad habits. Nations and their accumulations have been overthrown by the results, directly and cumulatively, of narcot-

ics, wrongly called stimulants, such as alcoholic beverages, opium, tobacco, etc., and their perverting effects.

There can be properly-healthy manhood, and properly-true and sure progress, only as mankind is fed on the plainest most wholesome foods, and the purest water; and the entire life, and action, strictly governed along the line of what is for the best. Poverty, misery, crime, and all the horde of other evils now existing, can be banished only by giving children their proper heritage of sound health, and rearing them along this reasonable, most important, and obligatory line of sanity.

All writers, and other workers, for the welfare and betterment of mankind have friends, many friends or relatives, addicted to, enslaved by, degenerating habits. And many well-meaning people do not mention or strongly combat these habits on account of these friends or relatives. This is often from a sentiment that cannot well be wholly justified. Do good, let your light and influence shine, and be felt, whatever 'friend,' relative or enemy oppose.

None but good, clear minds, honest and brave hearts will well inaugurate and carry forward any thorough movement for the overcoming of evil habits and the betterment of the human race; and it is incum-

bent upon everyone to do everything possible to help forward this most worthy movement.

Everyone who flaunts the vice of tobacco or alcoholic enslavement in public, is an enemy to the human race, in that he thereby exerts a pernicious example to his or his neighbors' children, which may in turn cause their enslavement in the same vice and thus contribute to the increase of degenerates in the land.

It is a duty that everyone owes to his God, to his family, to himself, community, State and Nation, to be exemplary in his habits and, so far as possible, a worthy character for the youth and others to pattern after. The greatest responsibility naturally rests upon the parents; but no one has right to exemption from the duty stated.

The word reformer is one of the best of words; and it has been more manifest each year that every right-minded man and woman should work together, prudently and forcefully, for the replacing of evil habits in their community with those habits best for the individual, the family, and for the State. With right-minded people it is more evident to day than ever before that tobaccoism is second in evil only to alcoholism, and is generally a recruiting stage for alcoholism.

The two greatest things that block the

wheels of Progress in civilization to day, are these enslaving habits and a debased commercialism founded upon them. Were it not for the economic feature of vice shortening the lives of the enslaved, and the work of the few thoroughly Christian parents and reformers—the salt of the earth—there would be reversion even worse than to the dark ages, with little other than idiots, weaklings, criminals, and anarchy abroad in the land.

The Southern States have been making noble strides against the vice of alcoholism. The Northern States should rise equal to the occasion and carry the wave of reform yet further, against tobaccoism as well as alcoholism, the twins in opposition to freedom of the will, and to civilization. No one can afford to oppose these efforts for reform.

The culture of tobacco and the distilleries of alcohol have been the greatest curses of the United States. They have been the greatest detractors from proper agriculture. Farms have been sadly neglected where alcohol abounded. Tobacco has not only impoverished the soil, but it has bred night-riding, anarchy and death. The United States should be the great food and clothing (grain, and other foods, cotton, flax, and wool) producers for the nations. The agri-

culturists are rising year by year to greater freedom from enslaving habits. But they cannot rise to the full dignity of their work until fully free; and until every acre of land is devoted to its best and most honorable use.

X

QUESTIONS ANSWERED. THE CORRUPTORS. REFORMERS WANTED FOR THEIR SUPPRESSION.

Doubtless many questions will arise in the minds of those who have read this little book through to this page. Most of the questions that have been presented to the writer at different times about tobacco, are answered in this section. Some of these answers have been embodied in preceding pages. In fact much of this book may be said to be line upon line, precept upon precept, and warning upon warning.

There are many noxious, even poisonous, plants growing by the roadside, in waste places, and in fields, for which no particular use to mankind has been discovered. A few of such plants are of some service to mankind when discreetly used. Not so with

tobacco. Tobaccoism or nicotinism is classed with opiumism or morphinism, cocaineism, hashishism, and alcoholism. Tobacco and alcohol possess not one redeeming feature for use as medicine like opium, cocaine, and hemp. Alcohol has valid use only in the arts and sciences. Tobacco has no valid use whatever.

Tobacco habit is not formed from natural desire for the pungent weed. Some persons have formed the habit from unwise advice of physicians or others addicted to it. Generally, however, the habit is formed by boys who are induced to persist through the sickening tastings to form the habit, by the dares or challenges, taunts and gibes of their already degraded associates. Too often this pernicious influence has come from men upon whom the boys have looked as exemplars, but who are degenerates; also from dealers in tobacco who desire pecuniary profit thereby! Recently a boy in England three years and nine months of age, ill generally and with a tobacco heart, was presented to hospital for treatment; and it was there learned that his father had trained him to smoke, and was giving him ten cigarets a day, and was gathering money from those to whom he was exhibiting the boy in public in the act of smoking them!—*The Medical Times*, New York City, 1909.

Surely, many people in the palmy days of old Greece were put to death for corrupting the young to less degree than in these instances.

Often the depravity and perversions of the tobacco habit are asserted in most unreasonable and untoward ways. The victim being so strongly enslaved that the will power cannot reinstate itself, every shadow of fallacy is seized at in an effort to excuse, even to warrant, continuance of the vice. Assertion is made that tobacco preserves the teeth, which is not true. Also that it aids digestion; the fallacy of which statement has been shown over and over on preceding pages of this book. An impure breath is combined with a worse odor by tobaccoism. There can be nothing worse than tobacco reek.

Tobacco conduces to unhealthy flesh in both the lean and the overfleshy. If any change in weight occurs, it is likely to be from fatty degeneration, or a wasting from indigestion and malassimilation, from the tobacco.

The physicians and clergymen who are tobacco inebriates, contracted the habit with their fellow boys, or in another untoward state, and are, like others, so enslaved that they cannot readily quit the vice. They should be the first to keep their shame-

ful indulgence out of sight; and should wholly quit the habit as soon as possible. If their volition is so far deteriorated that they cannot reform within themselves, they should abide in a sanatorium until their will power and general strength for abstaining from the vice are fully restored.

The fact that an occasional user of tobacco lives to old age, is but a rare exception to the rule that tobacco produces disease and greatly shortens life. The human system shows remarkable powers of toleration, accommodating itself to the many serious impositions upon it. Were it not for the extra strong eliminating, and accommodatingly elastic powers possessed by some people, there would be more shortened lives, even of early and sudden deaths, from tobacco, alcoholic beverages, and overeating, than there are at present, as numerous as such deaths now are.

When a man tells of the composure of his nerves and mind by tobacco, it is but the confession of his enslavement by the habit. The cravings for tobacco are but the appeals of the habit for forging yet stronger the chains of its victim's enslavement. One so enslaved cannot think, or work, naturally well when using and under the influence of tobacco, and much less can he think or work well without it; hence the habit is a

great impairer of natural thinking and working ability. Because some men of great natural ability have done some good work when addicted to the vice, it is not at all to the credit of tobacco; they could have done far better without it.

Insistence upon total abstinence from alcoholic beverages, tobacco, and all other narcotics, is not antagonistic to personal liberty in any reasonable sense; but it forms the best assurance for personal liberty in every true sense. Alcoholic and tobacco inebriety are the worst kind of slavery. No one can have moral, legal or personal liberty with either. Even 'moderate' use of tobacco or alcoholic beverage of any kind is as unsafe to personal liberty as it is dangerous to health, and the formation of a wholly uncontrollable habit that will ruin both body and soul.

It is the duty of the State to outlaw everything inimical to the welfare of its citizens. Hence it is that every grade of court has decided that the traffic in spirituous liquors is illegal; and so it should be with tobacco, the only dangerous narcotic that is at present not under proscription of a just and rigorous law.

It is a wholesome sentiment, that it is the duty of parents, and of States, to see strictly to the matter, that the children, and

adults, are not blighted in body or mind by any narcotic, or other cause, as only such can make proper citizens.

Mankind needs neither the vice of tobacco using, alcoholic beverage using, nor any other vice, to do his or her best work. In fact, one's bodily, business, and mental troubles multiply, and their friction increases, from such habits. To be temporarily 'soothed' (have the sensibilities blunted) by such habit, is but to blunt, obscure or pervert thoughts and realizations of duty. (In this connection, see Dr. James L. Tracy's paper on The Psychology of the Tobacco Habit in the journal *American Medicine*, New York City, July, 1909).

The statement has been made occasionally, and often implied, that it is necessary for the young to 'sow wild oats' and necessary for mankind to have tobacco or alcohol habit, or some other vice. This is the most fallacious and pernicious of assertions, and could emanate only from an evil mind. Because people with these habits are perverted in mind, it is a most outrageous work for them to proclaim that others are, or should be, like themselves. Such enslaved, perverted wills, and minds, are dangerous factors to be abroad in the land. Mental and moral obliquity go hand in hand. When the body and mind, the physical and the

psychical, are perverted, any other evil is likely to be near at hand; and the converse is also true.

The personal habits, of body and mind, of everyone seeking patronage, or employment should be carefully and thoroughly investigated. Such investigation should be even more thoroughly made regarding those seeking public office. It can readily be understood by thoughtful, observing persons, that anyone handicapped with enslaving, perverting habits cannot retain the full measure of a trustworthy man. All public servants, and distinctively mental and moral teachers, should possess fully rounded characters free from all vicious habits, and possess influences that tend only for the betterment of their community and commonwealth in all ways.

Total abstinence people in every community should club together and work prudently, and forcefully for all of the rights of those who desire to live clean and worthy lives.

That many tobacco users often have such worthy feelings and desires, is without question. The physical sufferings wrought by tobacco are not so keen as are the frequent dissatisfied, even disgusted, condition of the minds of yet sensible and would be respectable men, who chafe under the fact that they are enslaved by such filthy, vicious

habit. However, too many, alas, lose all will power even to make manly effort to quit the vice, and lose, or ignore, their self-respect also; even assume the vicious role of bravado, in effort to appear wholly regardless of their own welfare, and of the rights of those so unfortunate as to be afflicted with their presence.*

No one has any right to flaunt his depravity and his depraving habit in public. No one has a right to circulate on a street or elsewhere in public reeking with tobacco, much less puffing its smoke in the faces of others. Such bravados are becoming intolerably numerous. In business places, public offices, even in postoffices, courthouses, hotels everywhere, and restaurants, where free women and free men are obliged to go, it has become necessary to pass through an atmosphere vitiated by tobacco breaths and tobacco sputa!

These are public outrages upon civilization that self-and-rights-of-others respecting men and woman should not longer continue to endure meekly, as they have done in the past. The right of everyone to pure air, unadulterated by tobacco or other deleterious odors, should be insisted upon by all clean people, forcefully if necessary.

*See *Report on National Vitality, Its Wastes and Conservatism*, by Professor Irving Fisher, 1909.

From the foregoing, and from the candid thought by every one, can there be any question about the extreme sinfulness of tobacco using, and other narcotic habit,—of their extreme sinfulness against self, against the community, against future generations, and against The Creator?

Reduced to the ultimatum, tobacco is worthy of no less an anathema or curse than Shakespeare applied to the influence of alcoholic beverages: If thou hast no other name I will call thee Devil! Also, of the terrible arraignment of its companion evil by Reverend Robert Burton (born A. D. 1577, died 1640) who wrote of tobacco in 1621, that: 'Tis a plague, a mischief, a violent purger of goods, lands and health; hellish, devilish, and damned Tobacco; the ruin and overthrow of body and soul!

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